

## **REMARKS**

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of June 8, 2009 is respectfully requested.

By this Amendment, claims 1-4 and 6-10 have been amended. Thus, claims 1-10 are currently pending in the application. Support for the amendments to claim 1 can be found, for example, on page 8, line 24 through page 9, line 7 of the original specification. No new matter has been added by these amendments.

Revisions have been made to the specification, as indicated above. No new matter has been added by the revisions. Entry of the amendments to the specification is thus respectfully requested.

### **I. Nonstatutory Obviousness-Type Double Patenting**

On pages 2-3 of the Office Action, the Examiner provisionally rejected claims 1-10 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Application No. 10/585,646. However, it is noted that a terminal disclaimer was filed on April 16, 2009 in U.S. Application No. 10/585,646 to overcome a corresponding obviousness-type double patenting rejection over claims of the present application. Accordingly, as a terminal disclaimer was previously filed in U.S. Application No. 10/585,646 (the later-filed application as compared to the present application), it is respectfully submitted that the provisional double patenting rejection is not applicable to the claims of the present application.

### **II. Claim Rejections Under 35 U.S.C. § 112**

On page 3 of the Office Action, the Examiner rejected claims 1-10 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner noted that recitation of a grain size number in claim 1 is indefinite because claim 1 does not specify the standard used. In this regard, it is noted that claim 1 has been amended to recite a grain size number "defined by Japanese Industrial Standard." Therefore, it is respectfully submitted that the Examiner's formal rejection under § 112 is not applicable to amended claim 1.

### **III. Claim Rejections Under 35 U.S.C. § 102**

On pages 4-5 of the Office Action, the Examiner rejected claims 1-10 under 35 U.S.C. §

102(b) as being anticipated by Tajima et al. (US 6,488,789). For the reasons discussed below, it is respectfully submitted that the present claims are clearly not anticipated by Tajima.

Amended independent claim 1 recites a rolling bearing comprising an outer ring, an inner ring, and a plurality of rolling elements, wherein at least one of the outer ring, inner ring and rolling elements has a nitrogen rich layer, the at least one of the outer ring, inner ring and rolling elements is *made of SUJ2 steel as defined by Japanese Industrial Standard*, and a grain size number defined by Japanese Industrial Standard of austenite crystal grains in the nitrogen rich layer is greater than 10.

In this regard, it is first noted that Tajima does not disclose a rolling bearing in which at least one of the outer ring, inner ring and rolling elements has a nitrogen rich layer and is *made of SUJ2 steel as defined by Japanese Industrial Standard*, as required by independent claim 1. Rather, Tajima specifically discloses that the bearing member is made of a carbon steel which contains a smaller amount of carbon than that of SUJ2 steel in order to obtain satisfactory forgeability (see column 2, lines 52-59). Therefore, because Tajima explicitly discloses that the bearing member contains less carbon than that of SUJ2 steel, Tajima does not disclose a bearing in which at least one of the outer ring, inner ring and rolling elements has a nitrogen rich layer and is made of SUJ2 steel, as required by independent claim 1.

Further, Tajima does not disclose a rolling bearing in which at least one of the outer ring, inner ring and rolling elements has a nitrogen rich layer in which *a grain size number defined by Japanese Industrial Standard of austenite crystal grains in the nitrogen rich layer is greater than 10*, as required by independent claim 1. In this regard, the Examiner cites Tajima as disclosing a rolling bearing having an inner ring 20 which has a nitrogen rich layer, and that the grain size of austenite crystal grains in the nitrogen rich layer is 5  $\mu\text{m}$  or less. On page 4 of the Office Action, the Examiner notes there “is reason to believe that the specific limitation of the grain size number may be an inherent characteristic of Tajima.” Further, the Examiner cites *In re Best* as stating that “where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art,” the burden shifts to the Applicant to prove that the limitation in question is not an inherent characteristic of the prior art. Thus, the Examiner concludes that claim 1 is anticipated by Tajima, and asserts that Applicants bear the burden of proving that the limitation of claim 1 regarding the grain size number is not an inherent characteristic of Tajima.

However, it is first noted the MPEP § 2112(IV) clearly states that “in relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art,” and that “the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.”

In this regard, it is noted that the Examiner has not provided any basis in fact and/or technical reasoning to support the determination that Tajima inherently discloses that “a grain size number defined by Japanese Industrial Standard of austenite crystal grains in the nitrogen rich layer is greater than 10,” as required by claim 1. Rather, the Examiner only indicates that “there is reason to believe” that the limitation regarding grain size may be inherent, but the Examiner does not indicate what the reason is for such belief. Further, the Examiner’s assertion that the limitation regarding grain size may be inherent is explicitly indicated by MPEP § 2112(IV) to be insufficient to establish inherency.

In addition, the portion of *In re Best* cited by the Examiner clearly states that burden can shift to the Applicants “where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty” may be inherent (emphasis added). In this regard, it is noted that the allegedly inherent limitation of claim 1 recites “a grain size number defined by Japanese Industrial Standard of austenite crystal grains in the nitrogen rich layer is greater than 10” is clearly not a functional limitation. Thus, the burden only shifts to Applicants once the Examiner presents evidence or reasoning to show inherency, as required by MPEP § 2112.

In view of the above, it is respectfully submitted that inherency has not been established because the Examiner has not provided any basis in fact and/or technical reasoning to support the determination that the limitation regarding grain size necessarily flows from the teachings of the Tajima reference, as required by MPEP § 2112. Accordingly, it is respectfully submitted that the burden for establishing inherency remains with the Examiner.

Accordingly, for the reasons presented above, it is respectfully submitted that claim 1 is not anticipated by Tajima.

#### **IV. Claim Rejections Under 35 U.S.C. § 103**

On pages 4-5 of the Office Action, the Examiner rejected claims 1-10 in the alternative

under 35 U.S.C. § 103(a) as being unpatentable over Tajima.

As indicated above, Tajima does not disclose a rolling bearing in which at least one of the outer ring, inner ring and rolling elements has a nitrogen rich layer and is *made of SUJ2 steel as defined by Japanese Industrial Standard*, as required by independent claim 1. Rather, Tajima specifically discloses that the bearing member is made of a carbon steel which contains a smaller amount of carbon than that of SUJ2 steel in order to obtain satisfactory forgeability (see column 2, lines 52-59).

In this regard, Tajima explicitly teaches away from the invention of claim 1 by disclosing that a steel having a carbon content greater than 0.80 wt% (e.g., SUJ2 steel) is an unsatisfactory material for the bearing member because such a material has a deteriorated processability, machinability and toughness, and thus Tajima specifically requires that the steel have a carbon content less than that of SUJ2 steel (see column 5, lines 50-67). Therefore, it is respectfully submitted that it would not have been obvious to one of ordinary skill in the art to modify the Tajima reference such that the bearing component is made of SUJ2 steel because Tajima explicitly teaches away from such a modification.

Further, it is noted that MPEP § 2143.01(V) indicates that a proposed modification cannot render the prior art unsatisfactory for its intended purpose. As indicated above, Tajima explicitly teaches that a steel having a carbon content greater than 0.80 wt% (e.g., SUJ2 steel) is an unsatisfactory material for the bearing member because such a material has a deteriorated processability, machinability and toughness. Accordingly, it is further respectfully submitted that it would not have been obvious to one of ordinary skill in the art to modify the Tajima reference such that the bearing component is made of SUJ2 steel because Tajima explicitly teaches that such a modification would render the component of Tajima unsatisfactory for its intended purpose.

Accordingly, for the reasons discussed above, a person having ordinary skill in the art would clearly not have modified the Tajima reference in such a manner as to result in or otherwise render obvious the present invention of independent claim 1.

## **V. Conclusion**

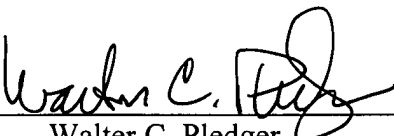
Therefore, it is respectfully submitted that independent claim 1, as well as claims 2-10 which depend therefrom, are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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November 9, 2009